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EXAMINER	
ARCHIE, NINA	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/500,167	LEE ET AL.	
	Examiner	Art Unit	
	Nina A. Archie	1645	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 September 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-12 and 14-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-12 and 14-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This Office is responsive to Applicant's amendment and response filed 9-4-09.. Claim 1 has been amended. Claims 1-22 are pending. Claims 18-22 are withdrawn from consideration. Claims 1-12 and 14-17 are under examination.

Rejections Withdrawn

2. In view of the Applicant's amendments and remarks the following rejections are withdrawn.

a) Rejection to claims 1 and 14 under 35 U.S.C. 102(b) as being anticipated by Bhattacharjee et al US Patent No. 5,919,617 Date July 16, 1999 is withdrawn in light of applicant's amendment thereto.

b) Rejection of claims 1-6 and 14 under 35 U.S.C. 103(a) as being unpatentable over Bhattacharjee et al US Patent No. 5,919,617 Date July 16, 1999 in view of Bhattacharjee et al US Application No. 20030039981 Date February 27, 2003 Filing Date November 27, 2001 and Switchenko et al US Patent No. 5,563,038 Date October 8, 1996 is withdrawn in light of applicant's amendment thereto.

c) Rejection of claims 1, 10-12, and 14 under 35 U.S.C. 103(a) as being unpatentable over Bhattacharjee et al US Patent No. 5,919,617 Date July 16, 1999 in view of Sheiness et al US Patent No. 5,776,694 Date July 7, 1998, and Harada et al US Patent No. 4,251,643 Date March 16, 1979 is withdrawn in light of applicant's amendment thereto.

d) Rejection of claims 1 and 14-17 under 35 U.S.C. 103(a) as being unpatentable over Sheiness et al US Patent No. 5,776,694 Date July 7, 1998 in view of Bhattacharjee et al US Patent No. 5,919,617 Date July 16, 1999 is withdrawn in light of applicant's amendment thereto.

Claim Rejections Maintained

35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Written Description

3. The rejection of claims 1-6, 10-12, and 14-17 under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Applicant arguments:

Applicants arguments filed in response to the 35 U.S.C. 112 first paragraph, September 4, 2009 is carefully considered, but not found to be persuasive for the reasons below.

Applicants' state claim 1 has been amended. Applicants state the amended claims do not encompass all diagnostic methods that can be used to detect any and all infectious agents, but rather diagnostic immunoassay methods the methods are also specific for the preparation of an endocervical fluid sample or a vaginal fluid sample. It is therefore clear that the methods of the invention, by reducing an inhibitory effect of the sample on the diagnostic immunoassay method, can be used for preparing an endocervical fluid sample or a vaginal fluid sample for any diagnostic immunoassay method thus clarifying that the amended claims do not encompass a vast and undisclosed genus of inhibitory effects. Applicants state an agent reduces direct inhibition of antibody-antigen interaction by components of the sample, or the viscosity of the sample and the inhibitory effects of vaginal fluid on antibody-antigen interaction are described at page 3, fourth complete paragraph, and page 4, section entitled "Sample Preparation". Applicants state a variety of different suitable agents for reducing the recited inhibitory effects of the sample on the diagnostic immunoassay method are disclosed at pages 5-6 of the specification, including DNase, oxidizing agents, non-ionic alkyl glucosides, polyvinyl alcohol, and polyvinyl pyrrolidine. Applicants argue the specification does not lack disclosure of what inhibitory effects are possible within the claimed test system or in disclosing what steps must be performed to reduce the inhibitory effect as specified in the amended claims.

Examiner's Response to Applicant's Arguments:

In response to applicant's statement as set forth supra, the instant claims are drawn to a diagnostic immunoassay method to detect whether the patient has been infected with an infectious agent, wherein the method comprises the steps of: a) treating the endocervical fluid

sample or the vaginal fluid with an agent to reduce an inhibitory effect of the sample, wherein the agent reduces direct inhibition of antibody-antigen interaction by components of the sample, or wherein the agent reduces viscosity of the sample; and b) performing the diagnostic method in the presence of DNase. The instant claims encompass a vast genus of agents capable of reducing direct inhibition of antibody-antigen interaction by components of the sample or the ability of reducing the viscosity of the sample. Therefore to adequately describe the claimed genus of agents, applicants must adequately describe the agents capable reducing direct inhibition of antibody-antigen interaction by components of the sample or the ability of reducing the viscosity of the sample. The specification is silent with regard to what structure (composition) engenders the recited functions in any diagnostic immunoassay method as claimed. Moreover, Applicant has not shown the correlation between structure and function as it applies to the claimed genus of agents. Thus, applicant was not in possession of the claimed genus. The agents cited by applicant as being effective in reducing direct inhibition of antibody-antigen interaction by components of the sample and/or reducing the viscosity of the sample are not representative of the claimed genus. Hence applicant's arguments are unpersuasive.

As outlined previously, the instant claims are drawn to a diagnostic immunoassay method to detect whether the patient has been infected with an infectious agent, a vaginal fluid sample, wherein the method comprises the steps of: a) treating the endocervical fluid sample or the vaginal fluid sample with an agent to reduce an inhibitory effect of the sample, wherein the agent reduces direct inhibition of antibody-antigen interaction by components of the sample or wherein the agent reduces viscosity of the sample; and b) performing the diagnostic immunoassay method in the presence of DNase.

The scope of the claims as set forth above is drawn to a vast genus of agents. Therefore to adequately describe the claimed genus of agents, applicants must adequately describe the agents capable of reducing an inhibitory effect of the sample. Applicants must also adequately describe the agents capable of reducing direct inhibition of antibody-antigen interaction by components of the sample and the ability of reducing the viscosity of the sample.

The specification states there are at least two aspects to the inhibitory phenomenon observed with vaginal swab specimens: direct inhibition of antibody-antigen interaction and indirect inhibition of the test by preventing proper mixing of reagents and the reduction or

inhibition of liquid flow and that the inhibitory effect varies widely between individuals and within the same individual during different periods of the menstrual cycle. The specification disclose a variety of different suitable agents for reducing the recited inhibitory effects of the sample on the diagnostic immunoassay method are disclosed at pages 5-6 of the specification, including DNase, oxidizing agents, non-ionic alkyl glucosides, polyvinyl alcohol, and polyvinyl pyrrolidine. The specification only discloses the efficacy of using DNase and hydrogen peroxide etc in optimizing samples for use in a dipstick based test.

The instant claims encompass a genus of agents for reducing inhibitory effects of the sample, reducing direct inhibition of antibody-antigen interaction by components of the sample, reducing the viscosity of the sample. The claims are silent with regard to what agents are capable of its recited function in any diagnostic immunoassay method as claimed. Furthermore the limited number of species disclosed in the specification does not specifically state which agents correlate to its recited functions. As a result Applicant has not shown the correlation of any genus of agents with functions in steps a) and b) aforementioned above. Therefore, the performance of said method steps a) and b) do not correlate to the outcome as claimed. Thus, applicant was not in possession of the claimed genus.

The courts have held that possession of a genus may not be shown by merely describing how to obtain members of the claimed genus or how to identify their common structural features. The written description requirement is separate and distinct from the enablement requirement (See also *Univ. of Rochester v. G.D. Searle & Co.*, 358 F.3d 916, 920-23, 69 USPQ2d 1886, 1890-93 (Fed. Cir. 2004) and adequate written description requires more than a mere reference to a potential method for identifying the candidate polypeptides. The purpose of the written description requirement is broader than to merely explain how to 'make and use' [the invention] *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1560, 19 USPQ2d 1111, 1114 (Fed. Cir. 1991).

The written description is not deemed to be fulfilled and the specification lacks proper written description of the claimed method as set forth *supra*. This issue is best resolved by Applicants pointing to the specification by page and line number where description of the claimed invention is set forth. Therefore, absent a detailed and particular description of a representative number, or at least a substantial number of the members of the genus inhibitory effects and the reduction of inhibitory effects, the skilled artisan could not immediately recognize

or distinguish members of the claimed genus as set forth supra. Therefore, in accordance with the Guidelines, the description is not deemed representative and thus does not meet the written description requirement.

Applicants are directed to the Revised Interim Guidelines for the Examination of Patent Applications Under the 35 U.S.C. 112, 1 "Written Description" Requirement, Federal Register, Vol. 64, No. 244, and pages 71427-71440, Tuesday December 21, 1999.

Enablement

4. The rejection of claims 1-6, 10-12, and 14-17 under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement for the reasons set forth in the previous Office Action. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Applicant arguments:

Applicants arguments filed in response to the 35 U.S.C. 112, first paragraph, September 4, 2009 is carefully considered, but not found to be persuasive for the reasons below.

Applicants argue Examiner does not address what would be 'due' experimentation (see In re Brana, 34 USPQ2d 1436, 1441 (Fed. Cir. 1995) (holding that an examiner must provide evidence to reject on enablement grounds, and absent such evidence applicants should not be required to substantiate their presumptively correct disclosure to avoid a rejection under the first paragraph of §112). Applicants state the specification explains that vaginal fluid is inhibitory to the interaction between antibodies and their target antigen (see for example, page 4, lines 15-16) and the examples in the present application also show that treatment of the endocervical fluid or vaginal fluid sample in accordance with the claimed invention improves the quality of these samples to allow detection of infectious agents. Applicants' state Chlamydia trachomatis is simply one example of an infectious agent that can be detected following treatment of the sample. Applicants state as will be apparent to the skilled person, there are many other diseases that can be detected by immunoassay, and since the quality of the sample for immunoassay is

improved following treatment according to the invention, the methods described also will improve the detection of other infectious agents by immunoassay. Applicants state agents for degrading nucleic acids and other oxidizing agents are known to the skilled person and based on the teaching in the specification would be expected to improve the quality of the test sample for immunoassay.

Examiner's Response to Applicant's Arguments:

In response to applicant's statement as set forth supra, the claims are drawn a diagnostic immunoassay method to detect whether the patient has been infected with an infectious agent, a vaginal fluid sample, wherein the method comprises the steps of: a) treating the endocervical fluid sample or the vaginal fluid sample with an agent to reduce an inhibitory effect of the sample on the diagnostic method, wherein the agent reduces direct inhibition of antibody-antigen interaction by components of the sample or wherein the agent reduces viscosity of the sample; and b) performing the diagnostic immunoassay method in the presence of DNase. The claims encompassing any agents for reducing an inhibitory effects of the sample, reducing direct inhibition of antibody-antigen interaction by components of the sample, reducing the viscosity of the sample is overly broad. Therefore it is hard for one skilled in the art to determine if the performance of said method steps a) and b) correlate to the outcome of using a diagnostic immunoassay method to detect whether the patient has been infected with an infectious agent. In regards to Applicants response of the Examiner not addressing what would be 'due' experimentation, the quantity of experimentation required to practice the invention as claimed would require all agents for reducing an inhibitory effects of the sample, reducing direct inhibition of antibody-antigen interaction by components of the sample, reducing the viscosity of the sample. Furthermore, the data does not demonstrate that any agent as claimed can perform the recited functions.

As outlined previously, while being enabling for a method for preparing a endocervical or vaginal fluid sample obtained from a human patient for performing a dipstick based diagnostic method to detect whether the patient has been infected with *Chlamydia trachomatis* utilizing DNase and an oxidizing agent does not provide enablement for a diagnostic immunoassay method to detect whether the patient has been infected with an infectious agent, a vaginal fluid sample, wherein the method comprises the steps of: a) treating the endocervical fluid sample or

the vaginal fluid sample with an agent to reduce an inhibitory effect of the sample on the diagnostic method, wherein the agent reduces direct inhibition of antibody-antigen interaction by components of the sample or wherein the agent reduces viscosity of the sample; and b) performing the diagnostic immunoassay method in the presence of DNase. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with the claimed invention. Enablement is considered in view of the Wands factors (MPEP 2164.01(a)).

There are many factors to be considered when determining whether there is sufficient evidence to support a determination that a disclosure does not satisfy the enablement requirement and whether any necessary experimentation is "undue." These factors include, but are not limited to:

(A) The breadth of the claims;

(B)The nature of the invention;

(C)The state of the prior art;

(D)The level of one of ordinary skill;

(E)The level of predictability in the art;

(F)The amount of direction provided by the inventor;

(G)The existence of working examples; and

(H) The quantity of experimentation needed to make or use the invention based on the content of the disclosure.

Nature of the invention

The claims are drawn to a method for preparing an endocervical fluid sample or a vaginal fluid sample obtained from a human patient for performing a diagnostic immunoassay method to detect whether the patient has been infected with an infectious agent, a vaginal fluid sample, wherein the method comprises the steps of: a) treating the endocervical fluid sample or the vaginal fluid sample with an agent to reduce an inhibitory effect of the sample on the diagnostic method, wherein the agent reduces direct inhibition of antibody-antigen interaction by components of the sample or wherein the agent reduces viscosity of the sample; and b) performing the diagnostic immunoassay method in the presence of DNase.

The Breadth of the claims

The product(s) being used is an agent for reducing an inhibitory effects of the sample, reducing direct inhibition of antibody-antigen interaction by components of the sample, reducing the viscosity of the sample. Therefore it is hard for one skilled in the art to determine if the performance of said method steps a) and b) correlate to the outcome of using a diagnostic immunoassay method to detect whether the patient has been infected with an infectious agent.

Guidance in the specification

The specification states discloses an inhibitory effect of vaginal fluid on the assay sensitivity was observed when known amounts of EB's were spiked into vaginal swabs (Figure 1). Furthermore, the signals generated in the present of vaginal fluid showed a reduction of approximately 100 fold compared to buffer. The specification states there are at least two aspects to the inhibitory phenomenon observed with vaginal swab specimens: direct inhibition of antibody-antigen interaction and indirect inhibition of the test by preventing proper mixing of reagents and the reduction or inhibition of liquid flow and that the inhibitory effect varies widely between individuals and within the same individual during different periods of the menstrual cycle. The specification disclose a variety of different suitable agents for reducing the recited inhibitory effects of the sample on the diagnostic immunoassay method are disclosed at pages 5-6 of the specification, including DNase, oxidizing agents, non-ionic alkyl glucosides, polyvinyl alcohol, and polyvinyl pyrrolidine. The specification only discloses the efficacy of using DNase and hydrogen peroxide etc in optimizing samples for use in a dipstick based test. Furthermore, the claims are silent to which agent is used for reducing an inhibitory effects of the sample, reducing direct inhibition of antibody-antigen interaction by components of the sample, reducing the viscosity of the sample. Therefore the skilled artisan would clearly realize the critical deficiency of this specification with regard to a diagnostic immunoassay method to detect whether the patient has been infected with an infectious agent.

Working examples

The specification discloses working examples of a method for preparing a sample obtained from a human patient for performing a diagnostic method to detect whether the patient has been infected with Chlamydia in the presence of DNase (see Figures and tables 1-2).

The Quantity of Experimentation Required

The quantity of experimentation required to practice the invention as claimed would be undue as the instant claims encompass any agent associated with the recited functions in an immunoassay method as claimed. Given the lack of guidance set forth in the specification it would require undue experimentation to practice the full breadth of the claimed invention.

In conclusion, the instant claims are only enabled for a method for preparing an endocervical or vaginal fluid sample obtained from a human patient for performing a dipstick based diagnostic method to detect whether the patient has been infected with *Chlamydia trachomatis* utilizing DNase but not the full breadth of the instant claims. The product being used is any agent with the recited functions aforementioned above is overly broad. Furthermore it is hard for one skilled in the art to determine if the performance of said method steps a) and b) correlate to the outcome of using any agent in a diagnostic immunoassay method to detect whether the patient has been infected. Furthermore, the claims are silent to which agent is used for reducing an inhibitory effects of the sample, reducing direct inhibition of antibody-antigen interaction by components of the sample, reducing the viscosity of the sample. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with the claimed invention. As a result, for the reasons discussed above, it would require undue experimentation for one skilled in the art to use the claimed methods.

New Grounds of Rejections

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-6, 10-12, and 14-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims are drawn to a method for preparing an endocervical fluid sample or a vaginal fluid sample obtained from a human patient for performing a diagnostic immunoassay method to detect whether the patient has been infected with an infectious agent, wherein the method comprises the steps of: a) treating the endocervical fluid sample or the vaginal fluid sample with an agent to reduce an inhibitory effect of the sample on the diagnostic method, wherein the agent reduces direct inhibition of antibody-antigen interaction by components of the sample or wherein the agent reduces viscosity of the sample; and b) performing the diagnostic immunoassay method in the presence of DNase (claim 1), wherein the DNase is present in an amount selected from the group of consisting of: (i) more than 0.5 µg/ml and (ii) 0.5 to 100 µg/ml (claim 2); wherein the DNase is present in an amount selected from the group consisting of: (i) more than 1.5 units of activity per ml and (ii) 1.5 to 300 units activity per ml (claim 3), wherein the sample is treated with an oxidizing agent (claim 4), wherein the oxidizing agent is hydrogen peroxide (claim 5),), using a working concentration of hydrogen peroxide of 0.5% to 3% w/v (claim 6), wherein the sample is treated with either or both polyvinyl alcohol (PVA) and polyvinyl pyrrolidone (PVP) (claim 10); wherein the sample is treated with PVA at a working concentration of between 0.01 and 0.5% w/v, wherein the PVA has an average molecular weight between 20 and 25 kDa (claim 11); wherein the sample is treated with PVP at working concentration between 0.2% and 2% w/v (claim 12), wherein the human patient is obtained as a self collected vaginal swab sample (claim 14), wherein the method is for detection of *Chlamydia trachomatis* (claim 15); wherein the patient is a self-collected vaginal swab and the methods is for detection of *Chlamydia trachomatis* (claim 16); wherein the method is a dipstick test method (claim 17).

Claim1 recites the limitation "the diagnostic method". There is insufficient antecedent basis for this limitation in the claim.

35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
>
> This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1, 4-5, and 14 under 35 U.S.C. 103(a) as being unpatentable over Cameron et al US Patent No. 5,844,097 Date December 1, 1998 and Bhattacharjee et al US Patent No. 5,919,617 Date July 16, 1999.

The claims are drawn to a method for preparing an endocervical fluid sample or a vaginal fluid sample obtained from a human patient for performing a diagnostic immunoassay method to detect whether the patient has been infected with an infectious agent, wherein the method comprises the steps of: a) treating the endocervical fluid sample or the vaginal fluid sample with an agent to reduce an inhibitory effect of the sample on the diagnostic method, wherein the agent reduces direct inhibition of antibody-antigen interaction by components of the sample or wherein the agent reduces viscosity of the sample; and b) performing the diagnostic immunoassay method in the presence of DNase (claim 1), wherein the sample is treated with an oxidizing agent (claim 4), wherein the oxidizing agent is hydrogen peroxide (claim 5), wherein the human patient is obtained as a self collected vaginal swab sample (claim 14).

Cameron et al teach a method of diagnosing cervical pain by subjecting a body fluid sample from a patient suspected of having chronic cervical pain (CCP) or lower back pain and peripheral nerve damage because of disease or congenital abnormalities (see abstract, column 3 lines 5-10, column 4 lines 50-55, column 5 lines 1-20). Cameron et al teach a method of quantifying or detecting the presence of protein for the diagnosis of CCP by employing immunoassays that are performed directly on the body fluid sample derived from tissue, serum, or other body fluids from subjects (see column 10 lines 55-65). Cameron et al said method of

quantifying or detecting the presence of protein for the diagnosis of CCP teach measuring relative amounts of protein or proteins which increase or decrease in concentration in said sample in response to a disease or infection (see column 5 lines 55-65, column 5 lines 60-67) which correlates to a method for preparing an fluid sample obtained from a patient for performing a diagnostic immunoassay method to detect whether the patient has been infected with an infectious agent. Cameron et al teach immunoassays including antibody capture (Ab excess); antigen capture (antigen competition); and the two-antibody sandwich technique to quantitate antigen concentration (see column 13 lines 20-67 and column 14 lines 1-35). Cameron et al teach immunoassays rely on labeled antigens, antibodies, or secondary reagents for detection and quantitation (see column 13 lines 40-50). Cameron et al teach a method for diagnosing patients with CCP by locating protein spots on a two-dimensional gel and by detecting the proteins by immunoblotting or western blotting utilizing the polyclonal or monoclonal antibodies raised to the particular protein of interest and the addition of 10µl of 30% hydrogen peroxide (see column 13 lines 1-15 and Example 8). Cameron et al teach prior to antigen detection, one must block the membrane to prevent non-specific adsorption of immunological reagents with a blocking solution and after blocking; antigens are detected directly or indirectly utilizes labeled antibodies (see column 13 lines 20-45). Cameron et al teach samples treated with DNase and RNase to reduce the viscosity in said samples (see column 11 lines 30-45) which correlates to a) treating a fluid sample with an agent to reduce inhibitory effect of the sample on the diagnostic method, wherein the agent reduces direct inhibition of antibody-antigen interaction by components of the sample; and b) performing the diagnostic immunoassay method in the presence of DNase. Cameron et al teach test kits comprising of adsorbents which include nitrocellulose paper and polyvinyls, whereby the ligands can be attached to the surface by direct adsorption, forced adsorption and coupling which can be used in an immunoassay such as enzyme-linked immunosorbant assay (ELISA) or a radioimmunoassay (RIA) (see column 14 lines 50-67).

Cameron et al does not teach a method for preparing an endocervical fluid sample or a vaginal fluid sample obtained from a human patient specifically for performing a immunoassay diagnostic method, wherein the method comprises the steps of: a) treating specifically the

endocervical fluid sample or the vaginal fluid sample with an agent, wherein the human patient is obtained as a self collected vaginal swab sample.

Bhattacharjee et al teach methods and materials for detecting the presence of a fungus in a biological sample (see abstract) obtained from healthy mammals subjects or those with frank or occult disease such at-risk patients from a site on or in the body (see column 7 lines 60-67). Bhattacharjee et al teach samples comprising tissues, including but not limited to swabbing from mucocutaneous membranes such as swabs from the vagina which correlate to a method, wherein the sample is an endocervical fluid sample or a vaginal fluid sample, wherein the human patient sample is obtained as a self-collected vaginal swab sample (see column 8 lines 1-7). Bhattacharjee et al teach methods of using antibodies binding to epitopes contained in a biological sample to detect a fungal pathogen used in assay (see columns 14-15). Bhattacharjee et al teach an antibody/epitope labeled and used to detect the presence of a fungus in a biological sample in an assay such as an enzyme linked immunosorbent assay (ELISA) (see column 14 lines 45-60) or radioimmunoassay (see column 15 lines 15-30).

Furthermore given that bodily fluid from a patient with cervical pain as disclosed by Cameron et al and endocervical samples or vaginal fluids as disclosed by Bhattacharjee et al are used in a immunoassay diagnostic method for detection of an infectious agent are well known in the art leading to predictable results, it would be obvious to use cited endocervical and vaginal fluids in said method disclosed in Bhattacharjee et al, in said method with cited bodily fluid from a patient with cervical pain disclosed in Cameron et al, thus, it remains obvious to combine the teachings of Cameron et al and Bhattacharjee et al even without an expression statement of motivation. KSR forcloses the argument that a specific teaching, suggestion, or motivation is required to support a finding obviousness. See the recent Board Decision Ex parte Smith, -- USPQ2d--, slip op. at 20, (Bd. Pat. App. & Interf. June 25, 2007 (citing KSR, 82 USPQ2d at 1396) available at (http://www.uspto.gov/web/offices/dcom/bpai/prec/fd071925.pdf).

7. Claims 1, 4-6, and 14 under 35 U.S.C. 103(a) as being unpatentable over Cameron et al US Patent No. 5,844,097 Date December 1, 1998, Bhattacharjee et al US Patent No. 5,919,617 Date July 16, 1999, and Switchenko et al US Patent No. 5,563,038 Date October 8, 1996.

The claims are drawn to a method for preparing an endocervical fluid sample or a vaginal fluid sample obtained from a human patient for performing a diagnostic immunoassay method to detect whether the patient has been infected with an infectious agent, wherein the method comprises the steps of: a) treating the endocervical fluid sample or the vaginal fluid sample with an agent to reduce an inhibitory effect of the sample on the diagnostic method, wherein the agent reduces direct inhibition of antibody-antigen interaction by components of the sample or wherein the agent reduces viscosity of the sample; and b) performing the diagnostic immunoassay method in the presence of DNase (claim 1), wherein the sample is treated with an oxidizing agent (claim 4), wherein the oxidizing agent is hydrogen peroxide (claim 5), using a working concentration of hydrogen peroxide of 0.5% to 3% w/v (claim 6), wherein the human patient is obtained as a self collected vaginal swab sample (claim 14).

Cameron et al teach a method of diagnosing cervical pain by subjecting a body fluid sample from a patient suspected of having chronic cervical pain (CCP) or lower back pain and peripheral nerve damage because of disease or congenital abnormalities (see abstract, column 3 lines 5-10, column 4 lines 50-55, column 5 lines 1-20). Cameron et al teach a method of quantifying or detecting the presence of protein for the diagnosis of CCP by employing immunoassays that are performed directly on the body fluid sample derived from tissue, serum, or other body fluids from subjects (see column 10 lines 55-65). Cameron et al said method of quantifying or detecting the presence of protein for the diagnosis of CCP teach measuring relative amounts of protein or proteins which increase or decrease in concentration in said sample in response to a disease or infection (see column 5 lines 55-65, column 5 lines 60-67) which correlates to a method for preparing an fluid sample obtained from a patient for performing a diagnostic immunoassay method to detect whether the patient has been infected with an infectious agent. Cameron et al teach immunoassays including antibody capture (Ab excess); antigen capture (antigen competition); and the two-antibody sandwich technique to quantitate antigen concentration (see column 13 lines 20-67 and column 14 lines 1-35). Cameron et al teach immunoassays rely on labeled antigens, antibodies, or secondary reagents for detection and quantitation (see column 13 lines 40-50). Cameron et al teach a method for diagnosing patients with CCP by locating protein spots on a two-dimensional gel and by detecting the proteins by immunoblotting or western blotting utilizing the polyclonal or

monoclonal antibodies raised to the particular protein of interest and the addition of 10μl of 30% hydrogen peroxide (see column 13 lines 1-15 and Example 8). Cameron et al teach prior to antigen detection, one must block the membrane to prevent non-specific adsorption of immunological reagents with a blocking solution and after blocking; antigens are detected directly or indirectly utilizes labeled antibodies (see column 13 lines 20-45). Cameron et al teach samples treated with DNase and RNase to reduce the viscosity in said samples (see column 11 lines 30-45) which correlates to a) treating a fluid sample with an agent to reduce inhibitory effect of the sample on the diagnostic method, wherein the agent reduces direct inhibition of antibody-antigen interaction by components of the sample; and b) performing the diagnostic immunoassay method in the presence of DNase. Cameron et al teach test kits comprising of adsorbents which include nitrocellulose paper and polyvinyls, whereby the ligands can be attached to the surface by direct adsorption, forced adsorption and coupling which can be used in an immunoassay such as enzyme-linked immunosorbant assay (ELISA) or a radioimmunoassay (RIA) (see column 14 lines 50-67).

Cameron et al does not teach a method for preparing an endocervical fluid sample or a vaginal fluid sample obtained from a human patient specifically for performing a immunoassay diagnostic method, wherein the method comprises the steps of: a) treating specifically the endocervical fluid sample or the vaginal fluid sample with an agent, wherein the human patient is obtained as a self collected vaginal swab sample. Cameron et al does not teach a method, using a working concentration of hydrogen peroxide of 0.5% to 3% w/v.

Bhattacharjee et al US Patent No. 5,919,617 teach methods and materials for detecting the presence of a fungus in a biological sample (see abstract) obtained from healthy mammals subjects or those with frank or occult disease such at-risk patients from a site on or in the body (see column 7 lines 60-67). Bhattacharjee et al US Patent No. 5,919,617 teach samples comprising tissues, including but not limited to swabbing from mucocutaneous membranes such as swabs from the vagina which correlate to a method, wherein the sample is an endocervical fluid sample or a vaginal fluid sample, wherein the human patient sample is obtained as a self-collected vaginal swab sample (see column 8 lines 1-7). Bhattacharjee et al US Patent No. 5,919,617 teach methods of using antibodies binding to epitopes contained in a biological sample to detect a fungal pathogen used in assay (see columns 14-15). Bhattacharjee et al US

Patent No. 5,919,617 teach an antibody/epitope labeled and used to detect the presence of a fungus in a biological sample in an assay such as an enzyme linked immunosorbent assay (ELISA) (see column 14 lines 45-60) or radioimmunoassay (see column 15 lines 15-30).

Switchenko et al teach a method for detecting the antigens in a clinical swab sample (Chlamydia) wherein the cell membrane components that are separated by solubilization with detergents (such as the oxidizing agent hydrogen peroxide) can be reconstituted which correlates to a method (which correlates to the use of an oxidizing agent/ hydrogen peroxide as set forth in claims 4 and 5). Switchenko et al further teach that antigens can be separated from cellular debris and biological fluids by detergents such as oxidizing agent hydrogen peroxide. Switchenko et al teach solubilization thereof can be accomplished in accordance with the present invention by incubation of the (Chlamydia) bacterial sample in the presence of a detergent such as oxidizing agent hydrogen peroxide as described above, usually in the concentration range of from about 0.01 to 1.0%, weight to volume. Finally, Switchenko et al teach one aliquot was combined with sufficient H_2O_2 to yield a final concentration of 1%. (see abstract column 7 lines 17-67, column 8, column 9 lines 40-47, column 18 Example 4) which correlates to a method with a working concentration of hydrogen peroxide of 0.5% to 3% w/v.

Furthermore given that bodily fluid from a patient with cervical pain as disclosed by Cameron et al and endocervical samples or vaginal fluids as disclosed by Bhattacharjee et al are used in a immunoassay diagnostic method for detection of an infectious agent are well known in the art leading to predictable results, it would be obvious to use cited endocervical and vaginal fluids in said method disclosed in Bhattacharjee et al, in said method with cited bodily fluid from a patient with cervical pain disclosed in Cameron et al, thus, it remains obvious to combine the teachings of Cameron et al and Bhattacharjee et al even without an expression statement of motivation. KSR forcloses the argument that a specific teaching, suggestion, or motivation is required to support a finding obviousness. See the recent Board Decision Ex parte Smith, --USPQ2d--, slip op. at 20, (Bd. Pat. App. & Interf. June 25, 2007 (citing KSR, 82 USPQ2d at 1396) available at (http://www.uspto.gov/web/offices/dcom/bpai/prec/fd071925.pdf).

It would have been equally obvious to one of skill in the art to was made to modify the method disclosed by Cameron et al by incorporating hydrogen peroxide for detecting the antigens in a biological sample (as disclosed by Switchenko et al) to remove unwanted cellular

debris for the samples.

One would have a reasonable expectation of success because to use hydrogen peroxide in the method (as disclosed by Cameron et al) is well known in the art.

8. Claims 1-5, and 14 under 35 U.S.C. 103(a) as being unpatentable over Cameron et al US Patent No. 5,844,097 Date December 1, 1998, Bhattacharjee et al US Patent No. 5,919,617 Date July 16, 1999, and Bhattacharjee et al US Application No. 20030039981 Date February 27, 2003 Filing Date November 27, 2001.

The claims are drawn to a method for preparing an endocervical fluid sample or a vaginal fluid sample obtained from a human patient for performing a immunoassay diagnostic method to detect whether the patient has been infected with an infectious agent, wherein the method comprises the steps of: a) treating the endocervical fluid sample or the vaginal fluid sample with an agent to reduce an inhibitory effect of the sample on the diagnostic method, wherein the agent reduces direct inhibition of antibody-antigen interaction by components of the sample or wherein the agent reduces viscosity of the sample; and b) performing the immunoassay method in the presence of DNase (claim 1), wherein the DNase is present in an amount selected from the group of consisting of: (i) more than 0.5 μg/ml and (ii) 0.5 to 100 μg/ml (claim 2); wherein the DNase is present in an amount selected from the group consisting of: (i) more than 1.5 units of activity per ml and (ii) 1.5 to 300 units activity per ml (claim 3), wherein the sample is treated with an oxidizing agent (claim 4), wherein the oxidizing agent is hydrogen peroxide (claim 5), wherein the human patient is obtained as a self collected vaginal swab sample (claim 14).

Cameron et al teach a method of diagnosing cervical pain by subjecting a body fluid sample from a patient suspected of having chronic cervical pain (CCP) or lower back pain and peripheral nerve damage because of disease or congenital abnormalities (see abstract, column 3 lines 5-10, column 4 lines 50-55, column 5 lines 1-20). Cameron et al teach a method of quantifying or detecting the presence of protein for the diagnosis of CCP by employing immunoassays that are performed directly on the body fluid sample derived from tissue, serum, or other body fluids from subjects (see column 10 lines 55-65). Cameron et al said method of quantifying or detecting the presence of protein for the diagnosis of CCP teach measuring relative amounts of protein or proteins which increase or decrease in concentration in said

sample in response to a disease or infection (see column 5 lines 55-65, column 5 lines 60-67) which correlates to a method for preparing an fluid sample obtained from a patient for performing a diagnostic immunoassay method to detect whether the patient has been infected with an infectious agent. Cameron et al teach immunoassays including antibody capture (Ab excess); antigen capture (antigen competition); and the two-antibody sandwich technique to quantitate antigen concentration (see column 13 lines 20-67 and column 14 lines 1-35). Cameron et al teach immunoassays rely on labeled antigens, antibodies, or secondary reagents for detection and quantitation (see column 13 lines 40-50). Cameron et al teach a method for diagnosing patients with CCP by locating protein spots on a two-dimensional gel and by detecting the proteins by immunoblotting or western blotting utilizing the polyclonal or monoclonal antibodies raised to the particular protein of interest and the addition of 10μl of 30% hydrogen peroxide (see column 13 lines 1-15 and Example 8). Cameron et al teach prior to antigen detection, one must block the membrane to prevent non-specific adsorption of immunological reagents with a blocking solution and after blocking; antigens are detected directly or indirectly utilizes labeled antibodies (see column 13 lines 20-45). Cameron et al teach samples treated with DNase and RNase to reduce the viscosity in said samples (see column 11 lines 30-45) which correlates to a) treating a fluid sample with an agent to reduce inhibitory effect of the sample on the diagnostic method, wherein the agent reduces direct inhibition of antibody-antigen interaction by components of the sample; and b) performing the diagnostic immunoassay method in the presence of DNase. Cameron et al teach test kits comprising of adsorbents which include nitrocellulose paper and polyvinyls, whereby the ligands can be attached to the surface by direct adsorption, forced adsorption and coupling which can be used in an immunoassay such as enzyme-linked immunosorbant assay (ELISA) or a radioimmunoassay (RIA) (see column 14 lines 50-67).

Cameron et al does not teach a method for preparing an endocervical fluid sample or a vaginal fluid sample obtained from a human patient specifically for performing a immunoassay diagnostic method, wherein the method comprises the steps of: a) treating specifically the endocervical fluid sample or the vaginal fluid sample with an agent, wherein the human patient is obtained as a self collected vaginal swab sample. Cameron et al does not teach a method, wherein the DNase is present in an amount selected from the group of consisting of: (i) more

than 0.5 μg/ml and (ii) 0.5 to 100 μg/ml, wherein the DNase is present in an amount selected from the group consisting of: (i) more than 1.5 units of activity per ml and (ii) 1.5 to 300 units activity per ml.

Bhattacharjee et al US Patent No. 5,919,617 teach methods and materials for detecting the presence of a fungus in a biological sample (see abstract) obtained from healthy mammals subjects or those with frank or occult disease such at-risk patients from a site on or in the body (see column 7 lines 60-67). Bhattacharjee et al US Patent No. 5,919,617 teach samples comprising tissues, including but not limited to swabbing from mucocutaneous membranes such as swabs from the vagina which correlate to a method, wherein the sample is an endocervical fluid sample or a vaginal fluid sample, wherein the human patient sample is obtained as a self-collected vaginal swab sample (see column 8 lines 1-7). Bhattacharjee et al US Patent No. 5,919,617 teach methods of using antibodies binding to epitopes contained in a biological sample to detect a fungal pathogen used in assay (see columns 14-15). Bhattacharjee et al US Patent No. 5,919,617 teach an antibody/epitope labeled and used to detect the presence of a fungus in a biological sample in an assay such as an enzyme linked immunosorbent assay (ELISA) (see column 14 lines 45-60) or radioimmunoassay (see column 15 lines 15-30).

Bhattacharjee et al US Application No. 20030039981 teach a method and materials for detecting the presence of a fungus in a biological sample (see abstract), wherein biological samples may be RNA isolated from mixtures of DNA and RNA by using selective exonucleases, such as DNase (see 0038). Bhattacharjee et al US Application No. 20030039981 teaches DNase is 1 mg/ml (see paragraph 0157) which correlates to DNase present in an amount of more than 0.5 μg/ml; and the DNase present in an amount more than 1.5 units of activity per ml.

Furthermore given that bodily fluid from a patient with cervical pain as disclosed by Cameron et al and endocervical samples or vaginal fluids as disclosed by Bhattacharjee et al are used in a immunoassay diagnostic method for detection of an infectious agent are well known in the art leading to predictable results, it would be obvious to use cited endocervical and vaginal fluids in said method disclosed in Bhattacharjee et al, in said method with cited bodily fluid from a patient with cervical pain disclosed in Cameron et al, thus, it remains obvious to combine the teachings of Cameron et al and Bhattacharjee et al even without an expression statement of motivation. KSR forcloses the argument that a specific teaching, suggestion, or motivation is

required to support a finding obviousness. See the recent Board Decision Ex parte Smith, -- USPQ2d--, slip op. at 20, (Bd. Pat. App. & Interf. June 25, 2007 (citing KSR, 82 USPQ2d at 1396) available at (http://www.uspto.gov/web/offices/dcom/bpai/prec/fd071925.pdf).

It would have been prima facie obvious at the time the invention was made modify the method of Cameron et al by incorporating an amount of DNase as set forth supra disclosed by Bhattacharjee et al US Application No. 20030039981 in order to take advantage of the its ability to increase sensitivity in diagnostic methods.

One would have a reasonable expectation of success because to use DNase in the method (as disclosed by Cameron et al) is well known in the art.

9. Claims 1, 4-5, 10-12, and 14 under 35 U.S.C. 103(a) as being unpatentable over Cameron et al US Patent No. 5,844,097 Date December 1, 1998, Bhattacharjee et al US Patent No. 5,919,617 Date July 16, 1999, Sheiness et al US Patent No. 5,776,694 Date July 7, 1998, and Harada et al US Patent No. 4,251,643 Date March 16, 1979.

The claims are drawn to a method for preparing an endocervical fluid sample or a vaginal fluid sample obtained from a human patient for performing a diagnostic immunoassay method to detect whether the patient has been infected with an infectious agent, wherein the method comprises the steps of: a) treating the endocervical fluid sample or the vaginal fluid sample with an agent to reduce an inhibitory effect of the sample on the diagnostic method, wherein the agent reduces direct inhibition of antibody-antigen interaction by components of the sample or wherein the agent reduces viscosity of the sample; and b) performing the diagnostic immunoassay method in the presence of DNase (claim 1), wherein the sample is treated with an oxidizing agent (claim 4), wherein the oxidizing agent is hydrogen peroxide (claim 5), wherein the sample is treated with either or both polyvinyl alcohol (PVA) and polyvinyl pyrrolidone (PVP) (claim 10); wherein the sample is treated with PVA at a working concentration of between 0.01 and 0.5% w/v, wherein the PVA has an average molecular weight between 20 and 25 kDa (claim 11); wherein the sample is treated with PVP at working concentration between 0.2% and 2% w/v (claim 12), wherein the human patient is obtained as a self collected vaginal swab sample (claim 14),

Cameron et al teach a method of diagnosing cervical pain by subjecting a body fluid sample from a patient suspected of having chronic cervical pain (CCP) or lower back pain and peripheral nerve damage because of disease or congenital abnormalities (see abstract, column 3 lines 5-10, column 4 lines 50-55, column 5 lines 1-20). Cameron et al teach a method of quantifying or detecting the presence of protein for the diagnosis of CCP by employing immunoassays that are performed directly on the body fluid sample derived from tissue, serum, or other body fluids from subjects (see column 10 lines 55-65). Cameron et al said method of quantifying or detecting the presence of protein for the diagnosis of CCP teach measuring relative amounts of protein or proteins which increase or decrease in concentration in said sample in response to a disease or infection (see column 5 lines 55-65, column 5 lines 60-67) which correlates to a method for preparing an fluid sample obtained from a patient for performing a diagnostic immunoassay method to detect whether the patient has been infected with an infectious agent. Cameron et al teach immunoassays including antibody capture (Ab excess); antigen capture (antigen competition); and the two-antibody sandwich technique to quantitate antigen concentration (see column 13 lines 20-67 and column 14 lines 1-35). Cameron et al teach immunoassays rely on labeled antigens, antibodies, or secondary reagents for detection and quantitation (see column 13 lines 40-50). Cameron et al teach a method for diagnosing patients with CCP by locating protein spots on a two-dimensional gel and by detecting the proteins by immunoblotting or western blotting utilizing the polyclonal or monoclonal antibodies raised to the particular protein of interest and the addition of 10μl of 30% hydrogen peroxide (see column 13 lines 1-15 and Example 8). Cameron et al teach prior to antigen detection, one must block the membrane to prevent non-specific adsorption of immunological reagents with a blocking solution and after blocking; antigens are detected directly or indirectly utilizes labeled antibodies (see column 13 lines 20-45). Cameron et al teach samples treated with DNase and RNase to reduce the viscosity in said samples (see column 11 lines 30-45) which correlates to a) treating a fluid sample with an agent to reduce inhibitory effect of the sample on the diagnostic method, wherein the agent reduces direct inhibition of antibody-antigen interaction by components of the sample; and b) performing the diagnostic immunoassay method in the presence of DNase. Cameron et al teach test kits comprising of adsorbents which include nitrocellulose paper and polyvinyls, whereby the ligands can be

attached to the surface by direct adsorption, forced adsorption and coupling which can be used in an immunoassay such as enzyme-linked immunosorbant assay (ELISA) or a radioimmunoassay (RIA) (see column 14 lines 50-67).

Cameron et al does not teach a method for preparing an endocervical fluid sample or a vaginal fluid sample obtained from a human patient specifically for performing a immunoassay diagnostic method, wherein the method comprises the steps of: a) treating specifically the endocervical fluid sample or the vaginal fluid sample with an agent, wherein the human patient is obtained as a self collected vaginal swab sample. Cameron et al does not teach a method, wherein the sample is treated with either or both polyvinyl alcohol (PVA) and polyvinyl pyrrolidone (PVP), wherein the sample is treated with PVA at a working concentration of between 0.01 and 0.5% w/v, wherein the PVA has an average molecular weight between 20 and 25 kDa, wherein the sample is treated with PVP at working concentration between 0.2% and 2% w/v.

Bhattacharjee et al US Patent No. 5,919,617 teach methods and materials for detecting the presence of a fungus in a biological sample (see abstract) obtained from healthy mammals subjects or those with frank or occult disease such at-risk patients from a site on or in the body (see column 7 lines 60-67). Bhattacharjee et al US Patent No. 5,919,617 teach samples comprising tissues, including but not limited to swabbing from mucocutaneous membranes such as swabs from the vagina which correlate to a method, wherein the sample is an endocervical fluid sample or a vaginal fluid sample, wherein the human patient sample is obtained as a self-collected vaginal swab sample (see column 8 lines 1-7). Bhattacharjee et al US Patent No. 5,919,617 teach methods of using antibodies binding to epitopes contained in a biological sample to detect a fungal pathogen used in assay (see columns 14-15). Bhattacharjee et al US Patent No. 5,919,617 teach an antibody/epitope labeled and used to detect the presence of a fungus in a biological sample in an assay such as an enzyme linked immunosorbent assay (ELISA) (see column 14 lines 45-60) or radioimmunoassay (see column 15 lines 15-30).

Sheiness et al teach a method and kit for selective detecting a microorganism in vaginal samples associated with vaginal disorders obtained from a human patient (see abstract, column 39 lines 25-27, columns 23-24), wherein the sample is treated with PVP, further comprising a working concentration of 0.02% (w/v) (see column 31 lines 24-29).

Harada et al teach absorbent materials for aqueous fluids, which absorb fluid rapidly and swell uniformly, comprise modified polyvinyl alcohol polymers obtained by reacting in an anhydrous condition a polyvinyl alcohol polymer. Harada et al teach PVA type polymers that may be used as starting materials for making absorbent materials and further teach PVAs with molecular weights of 100-5000 g/mol (see section 6)

As to the limitation dependent claim 11, reciting the recitation, "wherein the sample has an average molecular weight between 20 and 25 kDa". According to section 2144.05 of the MPEP, differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). See also *Peterson*, 315 F.3d at 1330, 65 USPQ2d at 1382 ("The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages.")

As to the limitation in dependent claim 12, reciting the recitation, "wherein the sample is treated with PVP at a working concentration between 0.2% and 2% w/v". According to section 2144.05 of the MPEP, differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955). See also *Peterson*, 315 F.3d at 1330, 65 USPQ2d at 1382 ("The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages.")

A particular parameter must first be recognized as a result-effective variable, i.e., a variable, which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation. In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977). In the instant application, the amount of

Sheiness et al. and Harada et al produced a recognized result. Therefore, determining other optimum or workable amounts is routine experimentation.

Furthermore given that bodily fluid from a patient with cervical pain as disclosed by Cameron et al and endocervical samples or vaginal fluids as disclosed by Bhattacharjee et al are used in a immunoassay diagnostic method for detection of an infectious agent are well known in the art leading to predictable results, it would be obvious to use cited endocervical and vaginal fluids in said method disclosed in Bhattacharjee et al, in said method with cited bodily fluid from a patient with cervical pain disclosed in Cameron et al, thus, it remains obvious to combine the teachings of Cameron et al and Bhattacharjee et al even without an expression statement of motivation. KSR forcloses the argument that a specific teaching, suggestion, or motivation is required to support a finding obviousness. See the recent Board Decision Ex parte Smith, --USPQ2d--, slip op. at 20, (Bd. Pat. App. & Interf. June 25, 2007 (citing KSR, 82 USPQ2d at 1396) available at (http://www.uspto.gov/web/offices/dcom/bpai/prec/fd071925.pdf).

It would have been prima facie obvious at the time the invention was made to modify the method of Cameron et al by incorporating an polyvinyl pyrrolidone (PVP) as set forth supra as disclosed in Sheiness et al in order to take advantage of the its ability to absorb water and swell rapidly and generate a swelling force to detect organisms in a sample.

It would have been equally obvious to one of skill in the art to was made to modify the method disclosed in Cameron et al by incorporating polyvinyl alcohol (PVA) for detecting the antigens in a biological sample (as disclosed by Sheiness et al) as an adhesive by embedding and preserving particles in a sample to detect organisms.

One would have a reasonable expectation of success because to use polyvinyls as adsorbent material in the method (as disclosed by Cameron et al) is well known in the art.

10. Claims 1, 4-5, and 14-17 under 35 U.S.C. 103(a) as being unpatentable over Sheiness et al US Patent No. 5,776,694 Date July 7, 1998 and Cameron et al US Patent No. 5,844,097 Date December 1, 1998.

The claims are drawn to a method for preparing an endocervical fluid sample or a vaginal fluid sample obtained from a human patient for performing a diagnostic immunoassay method to detect whether the patient has been infected with an infectious agent, wherein the method

comprises the steps of: a) treating the endocervical fluid sample or the vaginal fluid sample with an agent to reduce an inhibitory effect of the sample on the diagnostic method, wherein the agent reduces direct inhibition of antibody-antigen interaction by components of the sample or wherein the agent reduces viscosity of the sample; and b) performing the diagnostic immunoassay method in the presence of DNase (claim 1), wherein the sample is treated with an oxidizing agent (claim 4), wherein the oxidizing agent is hydrogen peroxide (claim 5), wherein the human patient is obtained as a self collected vaginal swab sample (claim 14), wherein the method is for detection of *Chlamydia trachomatis* (claim 15); wherein the patient is a self-collected vaginal swab and the methods is for detection of Chlamydia trachomatis (claim 16); wherein the method is a dipstick test method (claim 17).

Sheiness et al teach a method and kit for selective detecting Chlamydia in vaginal samples associated with vaginal disorders obtained from a human patient (see abstract, column 39 lines 25-27, columns 23-24) which correlates to a method for preparing a human clinical sample for performing a diagnostic method on the sample for detection of an infectious agent, wherein the sample is an endocervical fluid sample or a vaginal fluid sample. Sheiness et al teach a method, reducing and lysis reagents and the cells of the prokaryotic and eukaryotic microorganisms of interest are lysed by combining the single, complex biological sample containing the microorganisms with a lysis solution, thereby releasing nucleic acid, i.e., the target nucleic acid (see columns 9 lines 1-15 and column 19 lines 15-50, column 23 lines 55-67), from the microorganisms. Sheiness et al teach a method for detection of *Chlamydia trachomatis* (see column 32 line 5 and column 19 lines 25-30, and column 12), wherein the patient samples may be collected and processed (see example 6 and abstract) which correlates to a method, wherein the human patient sample is obtained as a self-collected vaginal swab sample. Sheiness et al teach a method, wherein the method is a dipstick method (see column 7 lines 35-67, column 18-19, column 24 lines 55-60, table 2). Sheiness et al teach antigens or antibodies can be attached to beads in a dipstick, and then corresponding antibodies or antigens, respectively, could be identified (see column 19 lines 45-53). Sheiness et al teach sandwich assays involving antigen/antibody technology, wherein the antigen is either present in the original sample, extracted therefrom or released from organisms contained in the original sample by reagents that disrupt the cell wall and/or membrane (see column 26 lines 65-67 and column 27 lines 1-30).

Sheiness et al teach an antigen sequestered (captured) from the test sample by interaction with antigen specific antibody that is covalently immobilized on the surface of a solid support, wherein the captured target antigen is incubated with a signal antibody having a detectable label bound thereto, or having the capability of binding to a moiety having a detectable label bound (see column 26 lines 65-67 and column 27 lines 1-30) which correlates to a method for performing a diagnostic immunoassay method. Sheiness et al teach the addition of hydrogen peroxide in a vaginal sample in a diagnostic method (see Example 7).

Sheiness et al does not teach a method comprising the steps of: a) specifically treating a sample with an agent to reduce an inhibitory effect of the sample on the diagnostic method, wherein the agent reduces direct inhibition of antibody-antigen interaction by components of the sample or wherein the agent reduces viscosity of the sample; and b) specifically performing the diagnostic immunoassay method in the presence of DNase.

Cameron et al teach a method of diagnosing cervical pain by subjecting a body fluid sample from a patient suspected of having chronic cervical pain (CCP) or lower back pain and peripheral nerve damage because of disease or congenital abnormalities (see abstract, column 3 lines 5-10, column 4 lines 50-55, column 5 lines 1-20). Cameron et al teach a method of quantifying or detecting the presence of protein for the diagnosis of CCP by employing immunoassays that are performed directly on the body fluid sample derived from tissue, serum, or other body fluids from subjects (see column 10 lines 55-65). Cameron et al said method of quantifying or detecting the presence of protein for the diagnosis of CCP teach measuring relative amounts of protein or proteins which increase or decrease in concentration in said sample in response to a disease or infection (see column 5 lines 55-65, column 5 lines 60-67) which correlates to a method for preparing an fluid sample obtained from a patient for performing a diagnostic immunoassay method to detect whether the patient has been infected with an infectious agent. Cameron et al teach immunoassays including antibody capture (Ab excess); antigen capture (antigen competition); and the two-antibody sandwich technique to quantitate antigen concentration (see column 13 lines 20-67 and column 14 lines 1-35). Cameron et al teach immunoassays rely on labeled antigens, antibodies, or secondary reagents for detection and quantitation (see column 13 lines 40-50). Cameron et al teach a method for diagnosing patients with CCP by locating protein spots on a two-dimensional gel and by

detecting the proteins by immunoblotting or western blotting utilizing the polyclonal or monoclonal antibodies raised to the particular protein of interest and the addition of 10µl of 30% hydrogen peroxide (see column 13 lines 1-15 and Example 8). Cameron et al teach prior to antigen detection, one must block the membrane to prevent non-specific adsorption of immunological reagents with a blocking solution and after blocking; antigens are detected directly or indirectly utilizes labeled antibodies (see column 13 lines 20-45). Cameron et al teach samples treated with DNase and RNase to reduce the viscosity in said samples (see column 11 lines 30-45) which correlates to a) treating a fluid sample with an agent to reduce inhibitory effect of the sample on the diagnostic method, wherein the agent reduces direct inhibition of antibody-antigen interaction by components of the sample; and b) performing the diagnostic immunoassay method in the presence of DNase. Cameron et al teach test kits comprising of adsorbents which include nitrocellulose paper and polyvinyls, whereby the ligands can be attached to the surface by direct adsorption, forced adsorption and coupling which can be used in an immunoassay such as enzyme-linked immunosorbant assay (ELISA) or a radioimmunoassay (RIA) (see column 14 lines 50-67).

It would have been prima facie obvious at the time the invention was made to modify the method of Sheiness et al by incorporating a DNase as disclosed in Cameron et al in order to take advantage of preserving samples from a patient with cervical pain.

One would have a reasonable expectation of success because a method for detecting an infectious agent using reagents (disclosed Sheiness et al) is well known in the art.

Conclusion

11. No claims are allowed.

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nina A. Archie whose telephone number is 571-272-9938. The examiner can normally be reached on Monday-Friday 8:30-5:00p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner supervisor, Robert Mondesi can be reached on 571-272-0956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Nina A Archie
Examiner
GAU 1645
REM 3B31

/Robert A. Zeman/
for Nina Archie, Examiner of Art Unit 1645